



Biocides from façade coatings in urban surface waters: Estimating the leaching of biocides from render by polyacrylate-water partitioning constants?

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32 Biocides from façade coatings in urban surface waters: Estimating the leaching of biocides from render by polyacrylate-water partitioning constants? U. Bollmann, Aarhus University; K. Styszko, AGH University of Science and Technology / Dep Coal Chem Environ Science; Y. Ou, University Duisburg Essen; P. Mayer, Technical University of Denmark / Department of Environmental Engineering; S. Trapp, Danmark Tekniske Universitet / DTU Environment; J. Vollertsen, Aalborg University; K. Bester, Aarhus University / Environmental Science. Leaching of biocides from façade coatings attracts more and more attention within recent years. In-can as well as film preserving biocides are added to polymer resin based renders and paints in order protect from microbial spoilage. However, several studies revealed that biocides leach from the façade coating and are detectable in urban stormwater runoff. The present study focussed on the occurrence of biocides in the aqueous environment - both in urban water close to the sources as well as further away in fresh and marine waters. It could be shown that biocides are ubiquitous in the aqueous environment. They are detectable not only close to their sources in stormwater run-off but also further away in marine waters with concentrations up to 60 ng L⁻¹ (mecoprop up to 200 ng L⁻¹). Further work was done in order to estimate the leaching of biocides from building material. The possibility of using polyacrylate-water partition constants in comparison to render-water distribution constants was introduced for this purpose. The results showed that polyacrylate-water partition constants might serve as a useful and practical tool which would be closer to the reality than the commonly used water solubility and octanol-water partition constants.